

REMARKS

Previously, claims 32-36 and 48-57 were presented for review. In response to the prior Office action and election requirement dated September 20, 2004, Applicants elected for examination on the merits, without traverse, the claims corresponding to Group I, and specifically, Species H illustrated in Figure 8. Accordingly, Applicants acknowledge that claims 48-57 are withdrawn from consideration, leaving claims 32-36. By way of this amendment, claims 32-35 have been amended to more precisely recite Applicants' invention. Additionally, Applicants are appreciative of the Examiner's comments regarding the allowability of previously presented claim 34 upon inclusion of the subject matter recited in any associated base claim and any intervening claims. As such, new independent claim 58 has been added and includes the subject matter of independent claim 32 and dependent claim 34. Applicants submit that no new matter has been added and no new issues are presented that require new searches. As such, Applicants submit that new claim 58 is allowable as the new claim follows the Examiner's suggestions for arriving at allowable subject matter.

Further, Applicants do not intend to abandon the scope of the non-elected claims as originally filed or as withdrawn by the Examiner in the present Office action, but may pursue the remaining claims, either by petition for further review or in a divisional application. Accordingly, claims 32-36 and 58 are presently pending. Based upon the foregoing amendments and following comments, Applicants respectfully request reconsideration and allowance of the application.

35 U.S.C. 102(b) Rejections

Claims 32-33 and 35-36 have been rejected under 35 U.S.C. 102(b) as being anticipated by Porter (USP 4,079,754). Applicants respectfully traverse this rejection.

As now amended, independent claim 32 recites a fluid pressure reduction device comprising a plurality of stacked disks with *at least a first and a second flow path having a generally spiral shape and continuously extending* between the hollow center and the perimeter wherein the flow paths include *gradually diverg[ing] opposing walls*. Most significantly, Applicants' invention, as now claimed, teaches "counter-rotating" spirals that intersect at at least one point along the flow path. *See* Figure 8 (providing six flow paths that emanate from three common inlets with three flow paths spiraling in a clockwise direction and three flow paths spiraling in a counter-clockwise direction). That exemplary embodiment discloses three common inlet sections that introduce two spiral flow paths per inlet section which advantageously create fluid shear forces at each intersection to substantially reduce fluid pressure/hydrodynamic noise with a much lower risk of causing cavitation. For example, a first clockwise flow path [138] consists of inlet section [132], intermediate section comprised of recovery zones [158] and [160], and outlet section [140]. This clockwise flow path [138] intersects a first counter-clockwise flow path [148] at a first intersection [150], a second counter-clockwise flow path [152] at a second intersection [154], and a third counter-clockwise flow path [136] at a third intersection [156]. *See* page 12, line 19 through page 13, line 6.

To the contrary, Porter teaches a conventional fluid pressure reduction device with flow paths that neither delineate a spiral path, in any direction, nor "gradually diverge" as now claimed by the Applicants. The flow paths taught by the prior art are concentrically spaced with substantially parallel walls containing fixed right angle restrictions forcing the

flow path to assume a discretized or stepped progression from the perimeter to the hollow center of the fluid pressure reduction device. The flow paths taught within Porter are known to those skilled in the art as typical with respect to fluid pressure reduction devices and contain all of the detrimental effects of the prior art discussed in Applicants' pending application. *See* page 2, line 18 through page 4, line 12. As understood by those skilled in the art, when the abrupt contractions and expansions are used in liquid applications, fluid velocity abruptly accelerates producing corresponding abrupt, low pressure regions within the disk. These discrete, sharp changes in pressure can result in high pressure recovery that allows fluid pressure to drop below the liquid vapor pressure, which can lead to flashing and cavitation. While true that the concentric flow paths and abrupt restrictions have a lower cavitation potential than typical drilled holed fluid pressure reduction devices, the uniform width of the concentric grooves in cooperation with the abrupt restrictions of the referenced prior art prohibit the gradual pressure reductions and pressure recovery produced by Applicants invention. The teachings of Porter are wholly contrary to Applicants' invention, as now claimed.

Under Section 2131, the MPEP states: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir 1987). Applicants respectfully submit that the spiral, continuous, diverging flow paths now claimed in present invention, are neither anticipated nor obvious in view of Porter. Therefore, Applicants submit that amended independent claim 32 and its associated dependent claims 33-36 are patentably distinct from the cited reference. Applicants respectfully submit that the amendments and remarks presented herein have placed the application in condition for allowance. As such, independent claim 32 and its

dependent claims 33-36, as well as independent claim 58, should now be allowed.

Reconsideration of the application is respectfully requested.

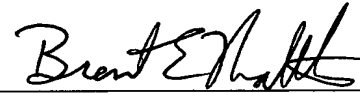
Conclusion

It is submitted that the present application is in good and proper form for allowance. A favorable action on the part of the Examiner is respectfully solicited. If, in the opinion of the Examiner a telephone conference would expedite prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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January 18, 2005